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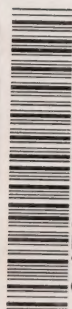
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Government of Canada
Fitness and Amateur Sport

Gouvernement du Canada
Condition physique et Sport amateur

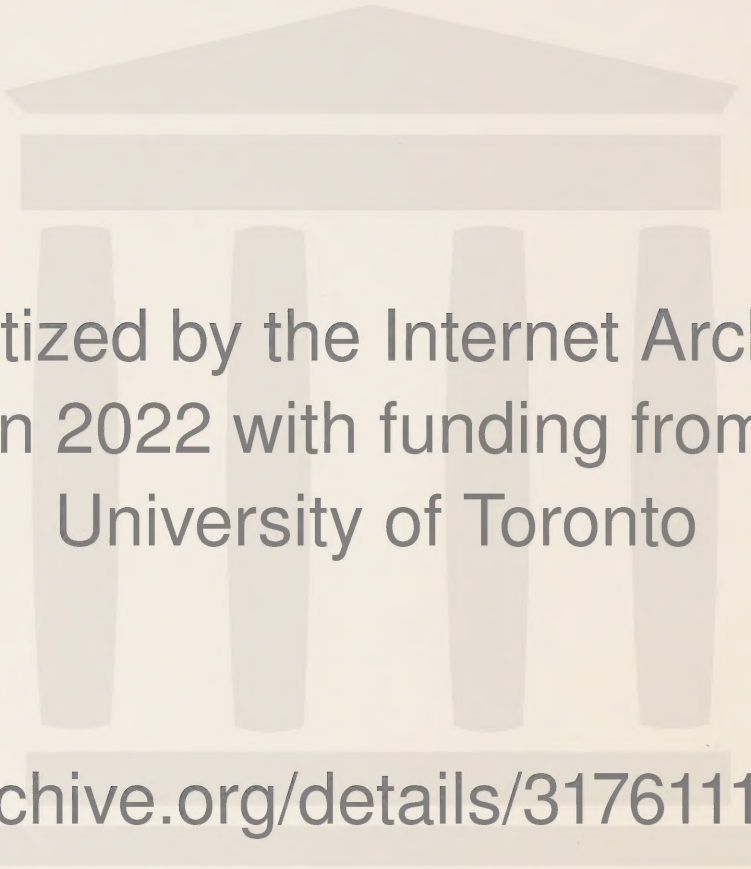
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Fitness and Pregnancy





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Produced by Fitness Canada

Fitness and Pregnancy



Également disponible en français sous le titre
"Conditionnement physique et grossesse"

This booklet was produced by Fitness Canada as part of the promotional campaign to encourage healthy lifestyles and fitness amongst Canadians throughout their life span — from birth to old age.

In particular, by promoting fitness to pregnant women, Fitness Canada is hoping to instil the importance of active lifestyles in women who in turn will pass these attitudes on to their children.

Fitness for two

The human body is a remarkable machine. It performs in a variety of complex ways having to react continually to stress. If not physically used regularly, the body loses its vitality and efficiency.

Fitness, an essential component of health, is the major prescription for revitalizing the human body leading to a fuller and healthier life.

As pregnancy is one of the major stresses on the female body it is essential to follow a balanced fitness program throughout your nine months. It means you are practicing fitness for two.

Exercise makes the circulatory system which nourishes your baby, work more efficiently. You will have more energy and experience less fatigue. Your improved abdominal strength will not only reduce frequent back pain, but it may assist you in labour and delivery as you are better able to cope with the whole experience. You'll regain a trim shape more easily afterwards. Also, many of the conditions associated with pregnancy — backaches, varicose veins, constipation and extreme weight gain — can often be prevented by exercise.

These benefits of fitness far outweigh the traditional view that the pregnant woman should “stay off her feet” to avoid injuring herself or her baby. Today, pregnancy is recognized as a dramatic physical process rather than a disability, and doctors and physiologists have developed exercise programs appropriate to a woman's

needs. Unless you have good medical reasons for not exercising, you'll serve your own health and that of your infant's far more by being active than by taking it easy.

Getting started: a balanced exercise program

Using your head is the most important exercise of all. A balanced exercise program is one that's been designed to exercise your whole body within reasonable limits — and one that is applied sensibly.

This booklet is intended to introduce you to just such a program. It is primarily an exercise book, which describes and illustrates a series of exercises especially selected to keep you fit during pregnancy.

The format followed is the same as recommended for any fitness program:

- warm-up period,
- aerobic exercises* for the heart and lungs,
- muscle toning exercises
- a cooling down and relaxation period.

The exercises are grouped in sections, each dealing with a specific area of the body (breasts, back, abdomen, pelvic floor, thighs, etc.). Each section

**Movement which is of a sustained and continuous nature and which maintains the heart and lungs at their optimum working level is called Aerobic Activity.*

explains the stresses peculiar to pregnancy and the benefits of a particular exercise in countering these stresses.

As well, there is a brief list of exercises which should be avoided during pregnancy, but remember that any exercise can cause strain if you do it improperly. If an exercise hurts you, apply the common sense rule — STOP DOING IT and continue with your other exercises. Get expert instruction before resuming any exercise that hurts.

The last section of the booklet provides some advice about postnatal exercises and when to begin them.

Exercise guidelines

People beginning an exercise program often ask: "How often do I have to exercise? For how long? How many times should I repeat each exercise?"

There is no single satisfactory answer to any of these questions. However, you should begin gradually and DON'T try to work through the whole book in one day. You must work at your own pace by learning to listen to your body for cues.

A few guidelines are offered which will assist you in planning your exercise program.

- Concentrate on *warm-up exercises*. Do them before all aerobic and muscle toning activities.
- *Aerobic exercises* such as walking, skating or

jogging are necessary to improve the efficiency of your heart and lungs, and should be done at least three times a week for 15-20 minutes at a time. Fast walking as opposed to jogging, is preferred for the woman beginning her fitness program in the latter stages of pregnancy.

- *Breathe normally* during each exercise and **NEVER** hold your breath. This will avoid strain and pressure build-up in the chest and on the abdominal wall.
- *Frequency of exercise* is suggested by the following table:

EVERY DAY	3 TO 5 TIMES A WEEK	NEVER
● relaxation exercises	● aerobics	see "precautions" list.
● pelvic floor exercises.	● calisthenics — muscle toning — stretching	
● walking		
● corrective rectus abdominus separation exercise.		

- *Join a prenatal fitness class* if you can. A good instructor can answer many of your questions and show you how to use this booklet to

supplement classes. Exercising with others is fun and gives you more incentive.

- Above all, **pay attention** to what your body tells you, because you're the only one who really knows how you feel.

Good Health — The total picture

Because you're concerned with *the complete health* of both you and your baby, remember that exercise is just one part of the health picture.

If you've decided to quit smoking, good for you! Tar and nicotine — besides endangering your own health — can retard the growth of your fetus. Why work against yourself?

If you occasionally take a few drinks, you should limit your intake. Alcohol, like tobacco, directly affects your developing baby — and good health is the "toast for a lifetime."

As well, proper nutrition is a vital part of a healthy lifestyle. Follow the guidelines contained in *Canada's Food Guide*, a government publication available free at most doctors' offices and fitness classes. Take extra dairy products and consult your doctor about special nutritional needs such as, iron or vitamin supplements.

You are off to a good start! Remember to begin gradually, consult your doctor, and most importantly have fun. The following sections tell you how to GET MOVING.

Warm-up

Every athlete — whether an Olympic sprinter or a weekend skier — knows the value of warm-up exercises. Stretching muscles before vigorous exercise prepares them for the activity. Tight "cold" muscles respond poorly and they're vulnerable to strain.

This principle applies just as importantly while exercising during pregnancy.

As pregnancy progresses there is a loosening of the joints and ligaments in your body. This loosening is in preparation for easy passage of your baby through the pelvis during delivery. However, this natural development does make you more susceptible to injury, especially during the last three months of pregnancy.

Warm-up exercises are the best way to work around this joint loosening effect. Do them before all exercises. But remember, stretches should be done in a slow deliberate manner — *no bouncing!*

Alternate Arm Stretches

Keep your back straight while sitting or standing; reach with outstretched arms overhead with right arm and then left arm, repeat.



This is a also posture exercise for the upper back and it helps to relieve pressure on the blood vessels and nerves in the arms.



Calf Stretching

Stand with one foot well in front of the other, palms flat against wall. Keep back leg straight and heel firmly planted on floor, bend front knee gradually and lean towards wall. As you feel the calf muscle stretching in rear leg bend the knee *slightly* to avoid strain. Alternate legs and repeat.

Widening the distance between your rear leg and the wall will increase the stretch, but work up to this gradually, paying attention to the "feel".

Squatting

Squat slowly while maintaining good balance with feet flat and wide apart; rest elbows on knees. Flatten the curve in your lower back and keep the spine as straight as you can. Hold head slightly forward to keep the body well aligned.



Squatting eases tension especially in the lower back when you're tired. It gives the calf muscles a good stretch.

Thigh Stretching

During delivery you may have to hold your legs apart for long periods of time. Stretching your inner thighs is an excellent long term preparation. Here's how.

Sit in the "butterfly" position with heels together and pulled in close to your body. Press both knees towards the floor. Relax. Then press both knees towards the floor while providing resistance with your hands underneath your knees. Relax.





Long Stretch

This is a long, long stretch that should be done cautiously. Stop if you feel undue strain. Sit as shown and spread legs as far apart as is comfortable. Stretch right arm down right leg while holding left arm overhead. Return right arm to overhead position. Relax and repeat, this time stretching to left side.

Stretch in Lying Position

You're more susceptible during pregnancy to muscle cramping — especially in the feet and calves. The following exercise gives the body a good stretch with less likelihood of cramping.

Lie flat on floor with arms at side, one leg straight, the other bent with foot flat on the floor. With straight leg, flex toes up and back towards you. HOLD. This stretches the calves. Flatten the hollow of your back and pull shoulders together to flatten the curve of your neck. Relax and repeat with other leg.



Remember always do stretching exercises, especially the calf stretch before any aerobic activity.

Aerobics: the foundation of fitness

The inside story on physical fitness begins with your heart and lungs, the foundation of your overall health. This is measured by aerobic fitness or how well a person can persist in large muscle activities for a sustained period of time.

Walking, jogging, swimming, cross-country skiing and bicycling are all examples of aerobic exercise. They all help increase your *oxygen uptake*, meaning that your body can take in more oxygen and circulate it more efficiently to your muscles.

This type of exercise increases your cardio-respiratory (heart and lung) fitness. You know your cardio-respiratory system is working well when you can continue a moderate sustained physical activity for about 15 or 20 minutes without panting, wheezing or feeling tired and uncomfortable.

After a few weeks of aerobic exercise your heart becomes a stronger pump for your cardio-respiratory system.

As with all exercises, the changes taking place in your body during pregnancy should determine the nature and duration of your aerobic activity.

Here's an outline of what happens:

Breathing

You'll find yourself getting out of breath more often and easily. Your brain is telling your lungs to work harder to get more oxygen to the growing fetus, but your lungs aren't expanding as efficiently because of the increasing restricted chest space.

Circulation

Within the first few months of pregnancy your blood volume begins to increase in order to provide the blood supply to nourish the growing fetus. Consequently, your heart may beat up to 15 times more per minute. By the time you're five or six months pregnant, your cardiac output — the amount of blood your heart pumps in a minute — will have increased considerably.

Aerobic exercise during pregnancy

Due to these changes you may feel you need to cut back on the duration and intensity of aerobic exercise as you move through your pregnancy. It is the time to *maintain* a reasonable level of aerobic fitness, rather than to do intensive training. Some activities are recommended over others.

Swimming is a preferred activity because the buoyancy of the water eases stress on your joints. Cycling, walking, *flat* cross-country skiing and rowing are other rhythmic exercises which are preferable to racquet sports, skipping, or such games as golf, volleyball and basketball. These latter activities involve twists, turns and sudden starts and stops which can

strain the muscles, joints and ligaments.

Jogging is fine, and some women do it even up to labour. If you're comfortable jogging for 20 minutes when you're seven months pregnant, go right ahead. If a pleasant stroll is what you feel you can handle, stick with that and save the laps around the track for later. It can't be repeated too often. Your body will tell you how far to go — "listen" to it carefully.

Remember to dress appropriately for whatever activity you choose — this is equally important before, during and after pregnancy. Wear loose clothing that lets you move freely: a firm brassiere with wide, non-elastic straps, supportive rubber-soled shoes, a thick-heeled jogging shoe if you're running. Don't wear a girdle; it's only going to cut off your breathing and circulation.

Monitoring aerobic fitness

Aerobic exercise should be done at least three times a week (leaving a day in between) for a minimum of 15 minutes plus a 5 minute each warm-up and cool-down in order to improve your cardio-respiratory fitness. It must be *continuous* and vigorous enough to increase the breathing rate.

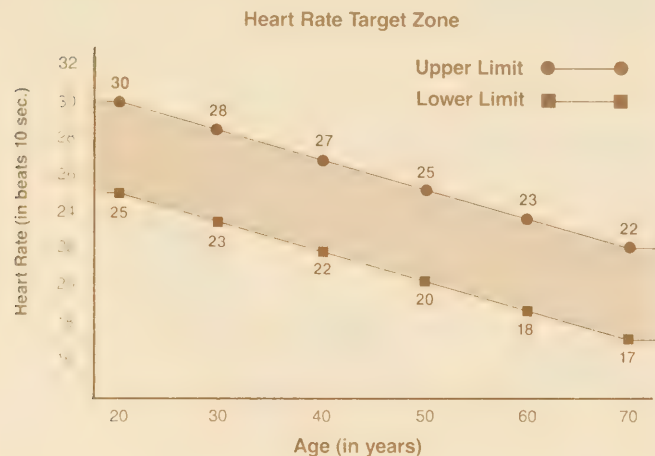
The talk test is a good way of making sure you're not pushing yourself too hard. If you can chat with someone comfortably while you're jogging, walking, or cycling, then you're doing fine; if not, slow down a bit.

For a more precise measurement of your exercise intensity, you can monitor your heart rate and check it against the target zone for your age.

First, take your pulse. Make sure you start measuring the beats no more than five seconds after you stop exercising, because your heartbeat will slow down almost immediately after you quit, and decrease significantly after 15 seconds of rest. With your index and middle fingers, feel for the pulsation on the thumb side of your wrist. Count the beats for ten seconds and multiply by six.



Refer to the TARGET HEART RATE CHART for your age to determine whether your pulse rate is appropriate.



If you're just starting aerobic exercises it's best to keep your heart rate near the lower end of the zone. If you are an active person, you can let your heart rate approach the upper end of the zone.

Aerobic exercise, besides its measurable physical benefits, does wonders in keeping your spirits up and making you like yourself. When your heart and lungs are working well, the whole person benefits.

Section III — Calisthenics

POSTURE

Posture is extremely important in how you look and feel about yourself. When you're pregnant, the effects of poor posture are much more noticeable. Backaches are a frequent complaint.

Slouching comes easy when you're carrying an extra 25 to 30 pounds. As your breasts become heavier and your abdomen enlarges, you may compensate for your shifting centre of gravity by standing farther back on your heels. This may feel like the "natural" thing to do, but it makes the spine curve, and may cause pain in both your upper and lower back.

Strengthening the muscles that support the spine is the best way to improve posture — but it works both ways: good posture also helps to condition the muscles.

Posture Check

Decreasing the curve of the lower back helps to correct posture. Pulling in your stomach muscles (abdominals), tightening the buttocks and tucking your seat under helps to flatten the lower back. This is called a "pelvic tilt". The exercises that accomplish it are excellent back strengtheners.

If you find it hard to "visualize" correct posture, try the posture check in front of a mirror, or have a friend watch. If you are in a pre-natal fitness class get your

instructor's help. A good tip is to try to walk as though there were a string running from the top of your head to the ceiling.



INCORRECT



CORRECT

The following exercises are all excellent for developing good posture and can help to alleviate back problems. They help strengthen the upper and lower back and should be done daily.

UPPER BACK

Shoulder Shrug

Sitting on the floor with legs crossed ("tailor sitting") and hands in your lap, raise shoulders to ears while breathing in, then let shoulders drop while breathing out. Repeat.



Shoulder Blade Pinch

While "crook-lying" (see illustration) clasp hands behind head with elbows outstretched. Draw shoulder blades together forcing your spine slightly off the floor. Hold this position for two complete breaths (inhale and exhale = one breath) then release. This exercise can also be done sitting in a chair or on the floor cross-legged. Choose the position you find most comfortable.
Discontinue the exercise if it aggravates your lower back.



Push-Offs

Keep your body straight from shoulders to feet, with heels flat on the floor. Do push-offs from the wall by bending and straightening arms.



LOWER BACK

The most important exercises for preventing and relieving backache are those which stretch the lower back muscles, the hamstrings, muscles in the back of the thighs, and exercises that strengthen the abdominal muscles.

Pelvic Tilt

The pelvic tilt - as described in the posture check — decreases the curve in the lower back, relieving pressure in that area. This exercise is fundamental to good posture and should be done every day. It can be done in a standing, sitting or lying position.



Lying Pelvic Tilt



Standing Pelvic Tilt

Stand with your back to a wall and place feet about six inches out from baseboard. Tilt your pelvis by pulling in abdominal muscles and squeezing buttocks together so that your lower back is flattened against the wall. Relax your shoulders. Hold for two complete breaths, then release. Repeat.

Sitting Pelvic Tilt



Bent-Leg Hamstring Stretch

When doing the hamstring stretch, put your arms by your sides — this “plants” your body solidly on the floor. In crook lying position¹, bring one knee up toward your chest², then straighten and extend leg with toes pointed toward the ceiling³. Keeping leg straight, lower it to the floor⁴, then slide it back to the crook (bent knee) starting position⁵. Repeat with other leg.

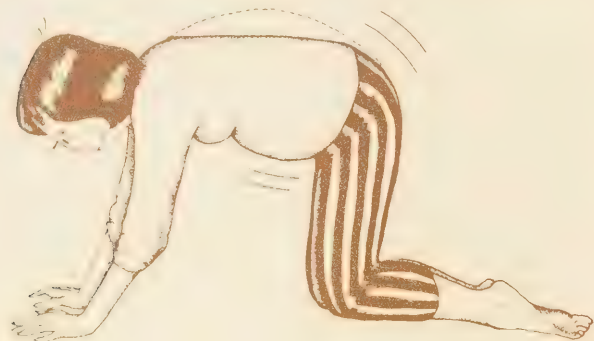
Relax and repeat the exercise, this time with ankle flexed (foot at right angles to your legs).

Pelvic Rock on all fours

This is an excellent multi-purpose exercise. It can provide quick relief of lower back pain as this position lets the uterus drop forward and removes the weight of the fetus from your backbone. It also relieves pressure on the nerves and joints of the pelvis. For this reason it can also be done during labour. As well, it strengthens the abdominal muscles against gravity, thus helping to improve posture. Do it frequently.

This exercise is especially helpful after aerobic exercise. Activities such as jogging and brisk walking, jar the body and may press the uterus into the pelvis, straining the ligaments that hold the uterus onto the walls of the pelvis. This is felt as a "stitch" in the lower abdomen and groin, and can be relieved very quickly by the pelvic rock.

Kneel on all fours, hold your back flat (not arched or hollowed), head level with back. Tighten abdominal



muscles, pulling them in and upwards against the pull of gravity. Tuck in your buttocks. This flattens the curve of the lower back.

Slowly relax the abdominal and buttocks muscles, allowing the lower back to return to its neutral position. Repeat slowly.

Hip Swaying

Kneeling on all fours (in the pelvic rock position), turn both head and hip to left. This stretches the right side. Repeat in opposite direction



This exercise stretches and strengthens the side abdominal muscles and relieves pressure on the spine.

Prenatal Exercise Summary Sheet

Warm-ups



Alternate Arm Stretches



Squatting



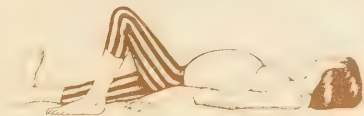
Calf Stretching



Thigh Stretching



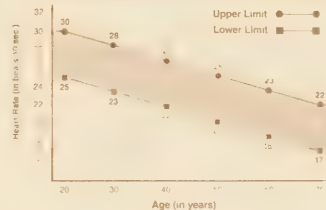
Long Stretch



Stretch in lying position

Aerobics

HEART RATE TARGET ZONE



Calisthenics

UPPER BACK



Shoulder Shrug



Shoulder Blade Pinch



Push-offs

LOWER BACK



Bent Leg Hamstring Stretch



Pelvic Tilt
(Standing, lying or sitting)



Hip Swaying



Pelvic Rock



Abdominal Tightening



Straight Curl-ups



Diagonal Curl-ups



Bridge

ABDOMEN



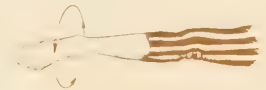
Exercise to correct separation of
Rectus Abdominus Muscles



LEGS AND FEET



Foot Bending and Stretching



Ankle Rotation

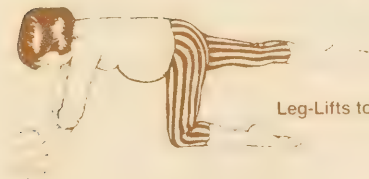
Imaginary Chair



Reclining Leg Lifts



Leg-Lifts to Back



Leg-Lifts to Side



BREASTS

Shoulder Rotation



Arm Circles



Bust Booster



PELVIC FLOOR

Hidden Exercises

- FAUCET
- WAVE
- ELEVATOR



Relaxation



Postnatal Exercise Summary Sheet

Warm-ups

- THIGH STRETCH
- LONG STRETCH
- STRETCH IN LYING POSITION
- CALF STRETCH
- ARM STRETCHES

Aerobics



Calisthenics



Corrective exercise for
Rectus Abdominus separation



Diagonal Sit-ups

- PUSH-OFFS
- ARM CIRCLES AND SHOULDER ROTATION
- PELVIC ROCK
- SHOULDER SHRUG
- BRIDGE
- ANKLE ROTATION
- FOOT BENDING AND STRETCHING
- RECLINING LEG LIFTS
- LEG LIFTS ON ALL FOURS
- BENT LEG HAMSTRING STRETCH
- IMAGINARY CHAIR

Hidden Exercises

- FAUCET
- WAVE
- ELEVATOR

Relaxation

ABDOMEN

The abdominals bear much of the pressure of the body's changes during pregnancy. They form the strong but elastic "wall" behind which your baby can grow safely in the uterus. Just seeing how much your stomach protrudes in the later stages of pregnancy will give you some idea of how much the abdominal muscles are stretched by the activity inside your body. Remember that the abdominals are also part of the support system for the spine; they assist in good posture.

This critical muscle group consists of four pairs of muscles which act like a corset to hold in the abdominal contents. They are also important in expulsive movements, and if well conditioned will assist in the delivery of your baby.

Because they are called upon to do so much, the abdominals benefit greatly from exercises that help increase their strength and keep them elastic.

The rectus abdominus muscles (central abdominal muscles) are the abdominal muscles most susceptible to strain. In 30 per cent of pregnant women, the central fibrous tissue that helps to keep these muscles taut, softens and weakens, causing noticeable muscle separation. The separation may be very slight or as large as 3 to 4 inches. It is important to check this separation, to prevent long term effects.

Checking for Separation of the Rectus Abdominus Muscles

Your doctor, or instructor in a pre-natal fitness class, can help you to locate the rectus abdominus if you have difficulty identifying them.

The accompanying illustrations show a simple "finger" test for determining whether these muscles are separating. Have a friend apply the test throughout your pregnancy as a regular part of your exercise program.

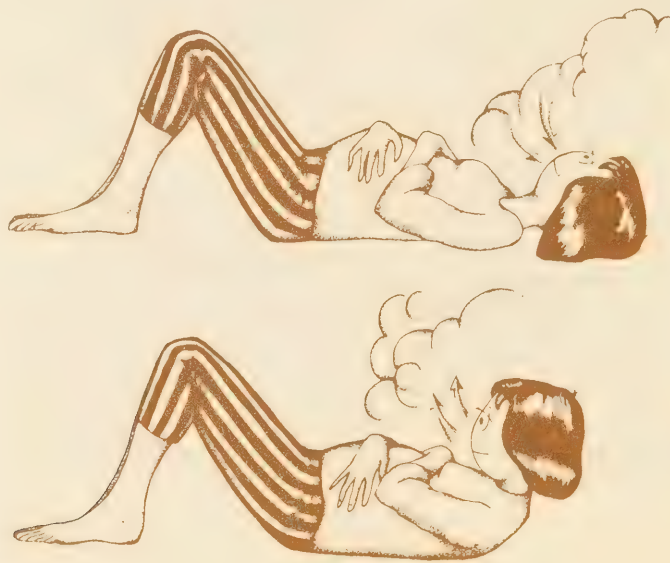
Lying flat on your back with knees bent, raise head



and shoulders slowly until your neck is about eight inches off the floor. Keep your chin tucked in. Have someone see how many fingers fit between the muscles (the fingers should be applied horizontally, not poked into your stomach). If the separation is three or more fingers, do the following exercise a few times a day in order to maintain muscle tone without causing further separation.

Exercise to Correct Separation of Rectus Abdominus Muscles.

Lie flat on your back with knees bent and hands folded over abdominal area so they support the rectus muscles. Breath in, then slowly raise your head to chest while breathing out. Hold this position for two normal breaths at a point just short of causing a bulge between the muscles then lower your head to floor. Repeat.



If the rectus abdominus muscles have separated only do the corrective exercise. Until the gap is closed, *don't* do exercises that rotate the trunk, twist the hips, or bend the trunk to one side. Leave more strenuous abdominal exercises, such as the following, until later.

ABDOMINAL EXERCISES (NO RECTUS ABDOMINUS SEPARATION)

Abdominal Tightening

Lying on your back with knees bent, blow out while pulling in abdominal muscles and pressing the curve of the lower back into the floor. Relax and breath in. Repeat.



Straight Curl Ups

Lie on your back with knees bent and hands at your side. Hold a pelvic tilt and lift your head, shoulders, and upper back off the floor for two normal breaths. Slowly uncurl down so that your head is the last to touch the floor.



You can make this exercise progressively more difficult by raising your head and shoulders further off the floor or by crossing your arms over your chest as you curl up. Let common sense and your body tell you how far to go. Don't curl up so far that you pinch your stomach or strain your back. As long as you can keep your feet flat on the floor and hold the curl position for two breaths without too much strain, you are staying within reasonable limits.

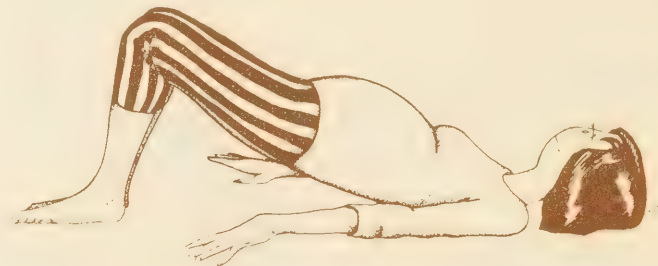
Diagonal Curl-Ups

Diagonal curl-ups should be alternated with the straight curl-ups, because this variation works the side abdominal muscles. Reach with your arms to the right and left side of your knees, alternating with each curl up.



Bridge

Lie on your back with knees bent and arms outstretched for stability. Raise your hips until knees and chest form a straight line. Contract your buttocks and abdomen simultaneously. Hold for six seconds then lower slowly to the floor. Progress by bringing your heels back closer to the buttocks.



Never arch your back while doing this exercise and remember to breathe evenly while holding the elevated position.

LEGS AND FEET

Hormonal and circulatory changes during pregnancy increase the possibility of varicose veins and phlebitis (blood clotting). Exercising the legs and feet help pump the blood from your legs back up to your heart and may help to prevent these conditions.

Further, developing strong muscles in your upper legs, thighs and hips will help you carry the weight you'll gain during pregnancy. The legs are called into play when lifting heavy objects, and must be strong in order to prevent back strain.

Ankle Rotating

Sit in a chair or on the edge of your bed with legs outstretched. Remember to keep your back straight. Make slow complete circles with each foot, first in one direction, then the other.



Foot Bending/Stretching

Now stretch foot by pointing the toes down and bend the foot by pointing the toes up. Bend and stretch several times with both feet.



Stretching the toes downward sometimes causes a cramp in the back of the calf. To ease cramp turn the toes upward and hold the position until your muscles relax.

Reclining Leg-lifts

Lie on the floor on your side. With your bottom leg bent at the knee for support, raise and then lower your top leg. Relax for a moment, then repeat the exercise. Repeat with opposite leg.



Imaginary Chair

Take an imaginary sitting position against a wall while standing. Your thighs should be parallel to the floor, your back flat against the wall and your arms relaxed at your sides.

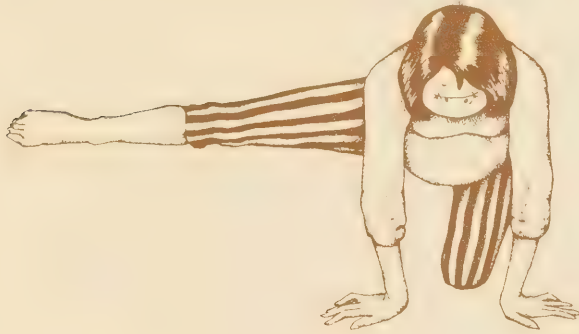
Hold this position for no more than the duration of two complete breaths, remembering to breathe normally. Then slowly slide back up to a standing position. After a few seconds of rest, repeat the exercise.



Leg-lifts to the Side — (On all fours)

On all fours, with back flat and head relaxed down, raise one knee to the side, straighten the leg, then bend it and return it to the starting position.

Repeat the exercise with other leg.



Leg-lifts to the Back — (On all fours)

On all fours again, straighten the right leg backwards, then raise and lower it carefully, remembering to keep your back as straight as possible.

Repeat this exercise using your left leg.

PELVIC FLOOR

If you can imagine a base that has to support all your pelvic organs — your bladder, uterus and bowel, for example — that's the pelvic floor.

Specifically, the pelvic floor is the group of muscles attached to the pelvis (the hip bone) at coccyx (tail bone), lower pelvic sides and pubic bone (in the front).

These muscles are always under pressure, but this pressure becomes even more intense under the weight of an enlarged uterus during pregnancy.

Another set of muscles equally important to remember during pregnancy are called sphincters. These are muscles that surround the passages — the anal passage, vagina and urethra, — through the pelvic floor.

During pregnancy, it's extremely important to keep the pelvic floor and sphincter muscles in good shape since the constant pressure of a heavier uterus can create strain. Many women experience problems with bladder control in late pregnancy and after delivery; exercising the urethral sphincter can improve control.

Exercising rectal muscles can prevent hemorrhoids which result from blood congestion in the rectum. Toning the muscles of the vagina helps form a firm elastic canal for childbirth. Both will lead to an easier delivery and to a better healing afterwards.

Faucet

Trying to control the flow of urine will help strengthen the urethral sphincter.

Urinate in spurts, stopping the flow in mid-stream; this will help to strengthen the urethral sphincter. When you're able to exert this much control, interrupt the flow several times during each urination.

Wave

This exercise can be done in any position, but try this one for starters: Sit on a hard chair and lean forward with your feet apart on the floor.

Now try to tighten all the sphincter muscles — anal, vaginal and urethral — from back to front, in succession. While it's difficult to separate these muscles from one another, it's much easier to contract them in succession.

When all three are tightened, hold the position for one or two seconds and then release the muscles in a wave-like motion, from front to back.

Elevator

Again, this exercise can be done in any position. Imagine you're on an elevator going from the first to the tenth floor of a building.

Now contract your pelvic muscles a little at a time, tightening them at each floor until you reach the tenth floor at the count of ten.

Descend and then gradually release your muscles, loosening them at each floor. By the time you reach the first floor — and not before — you should be back to

normal muscle tension.

And don't stop at the ground floor. Release the muscles even more, moving down to the basement and the sub-basement of your imaginary building. Then contract the muscles again, until you're back up to the first floor again.

THE BREASTS

The breasts are made up of glands, ducts and fatty tissue. They are supported by the muscles of the upper back and shoulders and the pectoral (chest) muscles. During pregnancy they undergo great change in preparation for providing the milk. In nine months they may become one to three pounds heavier.

To prevent the fibrous supporting tissue of the breasts from breaking down, leading to breast drooping, it is important to wear a firm brassiere with non-elastic straps. This will decrease the strain on supporting muscles and prevent discomfort from bouncing breasts.

Shoulder Rotation

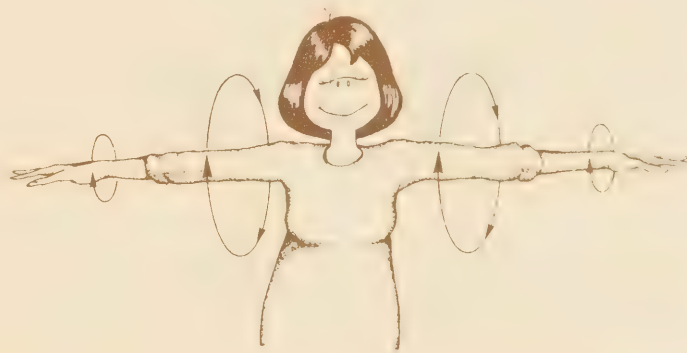
This shoulder exercise can be done while standing or sitting.

Place the fingertips on each shoulder and roll your elbows **backward**, making high enough circles so that the back of each hand touches your ears.



Arm Circles

As a variation of this exercise, hold your arms straight out to your sides at shoulder level and make circles — large, then smaller, then larger.



Bust Booster

Sitting cross-legged “tailor position”, cross arms over chest with elbows under breasts and hands at neck level. Keeping arms pressed against body, raise hands as high as possible. As arms pass over your nipples they should rub against them — helping to “rough them up” for breast-feeding. Lower arms until below waist, then swing the outstretched arms behind your back.



The “roughing up” is more effectively achieved by doing this exercise at home without wearing a brassière.

Note: Refer to exercises for upper back, as these muscles also support the breasts.

Cooling down after exercising

Cooling down after finishing your exercises is essential for the same reasons as warming up before doing them. Your body has to make the transition gradually — except this time in reverse — from hot, to warm, to cool.

REPEAT WARM-UPS

The exercises that you did to warm up are also excellent for the cooling down period, and you can further enhance it by learning how to relax.

RELAXATION

Experiencing relaxation has obvious benefits for everyone. Think of it as a practical tool for alleviating stress, and think of all the situations in your life to which such a tool can be applied.

There are specific benefits, too, when you're pregnant. Being able to induce general muscular relaxation can reduce labour pains, make delivery easier and lessen other pains associated with pregnancy. But like every aspect of fitness, relaxation must be learned.

A natural way to approach it is to employ the techniques whenever you sit down to take it easy — when watching TV, or before going to bed, for example.

Lying Position for Rest and Sleep

Lying on your side with one leg bent upwards (see diagram) is recommended during pregnancy. Putting a pillow under your head and another under your crooked leg may help you relax. Don't lie on your back because this places the weight of the fetus on the large blood vessels in the back and decreases circulation.



Breathing

As with all exercise, regular, uninterrupted breathing is essential. During relaxation exercises, concentrate even more on breathing: slow and controlled.

When you're comfortable, take a few deep breaths, close your eyes and tighten and release each major muscle group — one at a time.

Feel the relaxation gradually spreading from your toes up through your legs, buttocks, abdomen, and into your arms and all the muscles of your upper body. Feel the relaxation moving slowly up into your neck and head. Now your whole body feels heavier and you can feel the tension draining away as you relax totally.

Think about and enjoy the way you're feeling — so your mind and the rest of your body will remember it. Continue your slow breathing, sensing the relaxation in individual parts of your body — from your toes to your head.

When you are ready (probably after about five minutes), wiggle your fingers, then your toes. Next and gradually, but ever so slowly, move your limbs. When you want to get up, push yourself slowly into a crouch position and stand up by using your leg muscles while keeping your back straight.

Precautions

Exercises to avoid during pregnancy

This is a general list. Talk to your fitness class instructor, your doctor, or any qualified person to get more detailed information.

- Trunk rotations with straight legs in standing position.
- Double straight leg raises while lying on back.
- Straight leg sit ups.
- Exercises that exaggerate the hollow of the lower back.
- Shoulder stand with bicycling. (It is hard to balance in this position when you're pregnant and the exercise also puts too much weight on the neck.)
- Deep knee bends — up and down.
- Touching your toes from standing position without bending knees.
- The plow.



- Scissors.
- Saunas and steambaths not recommended. Remember that your blood pressure is probably lower when you're pregnant. This means you're more likely to become dizzy or faint under extreme heat conditions

STOP exercising if you have any of the following symptoms. *Consult your doctor* if you experience:

- Bleeding from the vagina. If this is brought on by exercise, stop exercising. This can occur both during pregnancy and in the postnatal period.
- Persistent contractions after exercise. These are not unusual following exercise, but if they *persist*, call your doctor.
- Persistent severe headaches.
- Severe nausea or vomiting.
- Infection: including colds or other viral infections, or bacterial infections.
- Anemia (low blood iron). Your doctor will check for this throughout your pregnancy and again before you're released from the hospital. Lack of energy is a common symptom, but let your doctor know.
- Excessive fatigue.
- Sudden swelling of ankles, feet, hands and face.
- Any gush of fluid from the vagina.
- Swelling, pain and redness in the calf of a leg.

Postnatal exercises

Remember that fitness never stops — not even amidst the excitement of caring for your baby and rescheduling your life to meet an infant's needs.

Your own body's needs are as important as ever — and your baby's good health is still highly dependent upon your physical fitness.

Postnatal exercises are essential as they help your body make the major adjustment to suddenly not being pregnant.

Toning your muscles helps your body “shrink” to the firm shape it was before you were pregnant. If you don't exercise, you may find it much harder to tighten up your body later.

Beginning Gradually

Begin *limited* exercising on the day of delivery. You can do posture checks, the pelvic floor exercises, abdominal tightenings with pelvic tilt, and the exercises for your legs, feet and ankles (ankle rotations, foot bending and stretching).

Check for rectus abdominal separation (in the same way you did during pregnancy) before increasing abdominal exercises. If there is a wide gap, do the following corrective exercise:

Exercise to Correct Separation of Rectus Abdominal Muscles

Lie in “crook” position with arms crossed over stomach and hands grasping your sides. Raise your head off the floor (you can gradually work up to head and shoulders) and pull the rectus muscles together with your hands while you exhale. Relax then repeat.



Do this exercise at least 50 times per day until the gap between the muscles is closed. (No, you don't have to do them all at once!)

As in the prenatal situation until the gap is closed, don't do exercises that rotate the trunk, twist the hips, or bend the trunk to one side. And leave more strenuous abdominal exercises, such as curl-ups, until later.

You should get further advice before you leave the hospital from whomever is teaching postnatal exercises. Show them this booklet and discuss it with them.

Fitness Exercises

If you do not have rectus separation, you can begin doing straight and diagonal curl-ups and gradually work toward doing full sit ups, with knees bent feet flat on the floor.



By the third day after delivery you can begin doing bridges.

All of the exercises recommended during pregnancy are a good starting point for resuming your normal fitness program. How quickly you increase exercising should depend on how you feel — and your doctor's advice. And don't forget those "hidden exercises" — Pelvic Floor Tightening, Pelvic Floor Elevator, Pelvic Floor Faucet — they are as important now as during pregnancy.

Refer to the Postnatal Exercise Summary sheet for a review of a complete exercise program.



As explained earlier, there are no rigid rules for an exercise time-table. However, aerobic exercises should build up gradually to at least 15 minutes of vigorous activity. For example, start with slow walking, move to brisk walking and then onto a more vigorous activity when you feel ready. To ensure that you are exercising at the appropriate level, determine your pulse rate as described under Monitoring Aerobic Fitness and compare it to the Target Heart Rate Chart. Again, it cannot be stressed enough to always precede the aerobic activity with a warm-up and complete it with a cool-down.

Even if your baby is delivered by Caesarian Section, you can begin aerobics whenever you and your doctor feel you're ready.

If you're breast feeding you have to take special care to replace the fluids lost during exercise. You can monitor fluid loss by weighing yourself before and after activities such as jogging. Headaches or decreased amounts of urine may also indicate fluid loss.



“Pep Talk”

When you've brought a new life into the world, you may have a heightened awareness of what life is. Even if you can't put it into words, you “feel it in your bones” and see that “feeling” take form in your baby.

This new awareness of your body and its capacities

is the strongest stimulus for wanting to stay physically fit. The joy of using your limbs and organs to their utmost, and of being sensitive to their response, is one of the most immediate and satisfying rewards of being alive.

Once you've found out that the essence of exercise is to *use your body*, keeping fit becomes as natural and individualistic a process as planting your garden, hiking in the woods, or going for a bicycle ride.

So. . . DON'T STOP NOW. . . Exercise for life, and have a long and healthy one!

Fitness Canada wishes to acknowledge the assistance of Dr. Patricia Beresford, Director, Preventive Medicine Centre, Halifax Y.M.C.A., in contributing greatly to the content of this booklet. Final manuscript was prepared by Fitness Canada. Special thanks are due to the many individuals (health professionals, fitness leaders and interested women) who offered valuable suggestions throughout the draft stages of this booklet.

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